

Quinqueremulus linearis, a new genus and species in the Australian Asteraceae (tribe Inuleae)

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Abstract

Wilson, Paul G. *Quinqueremulus linearis*, a new genus and species in the Australian Asteraceae (tribe Inuleae). Nuytsia 6(1):1-5 (1987) A new genus and species of Asteraceae tribe Inuleae is described from Western Australia. Its closest relatives appear to be species of the genus *Polycalymma* F.Muell. et Sonder.

In 1931 W.E. Blackall and C.A. Gardner independently collected between Wiluna and Leonora in Western Australia an undescribed member of the tribe Inuleae (Asteraceae). These collections, and those subsequently made by other botanists, were at various times determined as members of the genera *Gnephosis*, *Calocephalus*, or *Myriocephalus*. The species is now well represented by flowering and fruiting material in the Western Australian Herbarium (PERTH), the herbarium of the Kings Park Botanic Garden, and the National Herbarium of Victoria (MEL); it is here recognised as constituting a new genus within the subtribe Gnaphaliinae of the Inuleae as circumscribed by Merxmüller et al. (1977).

Quinqueremulus Paul G. Wilson, genus novum.

Herba, foliis integris, caulinis. Capitula breviter pedunculata in glomerulo laxe fasciculata bracteo herbaceo subtento. Bracteae capituli hyalinae. Receptaculum nudum. Flosculi numeroso bracteae capituli aequales, hermaphroditi, tubulares; corolla 5-lobata; styli rami truncata; antherae caudatae. Achenia cylindracea, glanduloso puberula. Pappo squamae 5, applanatae, durae, nudaе.

Typus: Quinqueremulus linearis Paul G. Wilson.

Herb with slender branches. *Leaves* entire, cauline. *Capitula* loosely clustered into compound heads (pseudocephalae) with cymose branching; capitulum subtended by a herbaceous bract and surrounded by hyaline involucre bracts. *Receptacle* naked. *Florets* equal in number to involucre bracts, hermaphrodite; corolla discoid, 5-lobed; style surrounded at base by a nectary in the form of a short fleshy cup (stylar cup), branches truncate, terminally papillose; stamens 5 with caudate anthers. *Achenes* cylindrical, glandular puberulous. *Pappus* of 5 hard flattened organs that alternate with the corolla lobes.

A monotypic genus of inland Western Australia.

Quinqueremulus linearis Paul G. Wilson, species nova. (Figures 1 and 2)

Folia caulina alterna linearia 20-30 mm longa, modice glanduloso-puberula. *Pseudocephalae* hemisphaericae, 1-3 cm diam. *Bractea capitulum* subtendentem solitaria foliacea ad apicem hyalina. *Capitulum* anguste turbinatum; bracteae capituli 5, obovatae, c. 3 mm longae, 1.5 mm latae, glabrae. *Flosculi* 5; corolla c. 2.5 mm longa, parte inferiore abrupte angustata,

modice glandulosa, flava. Achenium anguste cylindraceum, c. 4 mm longum, 0.7 mm latum, modice glanduloso puberulum, atro-rubrum. Pappo squamae demum incretentes, oblongae vel anguste obovatae, c. 2 mm longae, rotundatae, atro-rubrae, divaricatae.

Typus: Western Australia, Youangarra Station, 28° 55' S, 119° E, growing near bore in red sandy loam, 26 August 1970, P.G. Wilson 8873 (holo: PERTH; iso: AD, CANB, K, MEL, NSW).

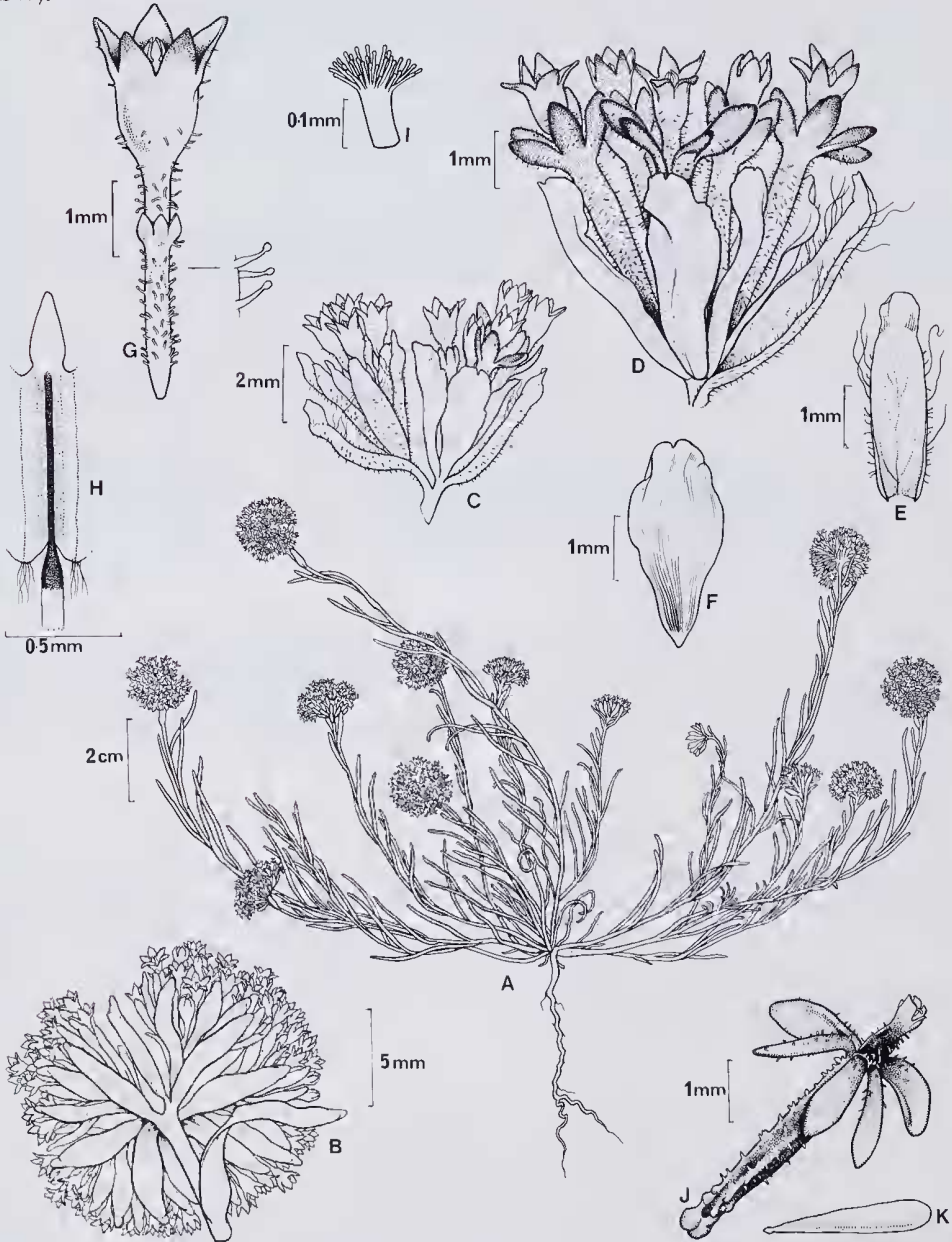


Figure 1. *Quinqueremulus linearis*. A — habit. B — compound head from below. C — two capitula. D — a single capitulum with subtending bract. E — bract subtending a capitulum. F — an involucre bract. G — floret. H — anther. I — style tip. J — achene with corolla attached. K — seed. From P.G. Wilson 8873.

Annual herb 10-30 cm high. *Major axes* several arising from base, ascending to erect, slender, puberulous with short gland-tipped hairs and thinly arachnoid towards apex with simple slender matted hairs. *Leaves* cauline, alternate, sessile, linear, obtuse, 20-30 mm long, 0.5-1 mm wide, somewhat fleshy, moderately puberulous with short gland-tipped hairs. *Compound head* irregularly hemispherical, c. 1 cm diameter in flower, up to 3 cm diameter in fruit; short branches of head each subtended by a foliaceous bract the inner of which have short hyaline tips. *Capitula* numerous, each subtended by a foliaceous bract tipped by a hyaline appendage and equal in length to the capitulum. Capitula narrow-turbinate, c. 3 mm high; capitular bracts 5, hyaline, without a midrib, obovate, c. 3 mm long, 1.5 mm wide, slightly concave, undulate or shortly lobed at apex, glabrous. *Receptacle* c. 0.3 mm diameter, glabrous. *Florets* 5; corolla tubular, c. 2.6 mm high, narrow-campanulate in upper half, abruptly narrowed in lower half, moderately glandular puberulous outside, glabrous within, yellow, tardily deciduous; lobes 5, c. 1 mm long. *Style base* narrow at anthesis, eventually hard and swollen. *Stylar cup* fleshy with 5 short rounded lobes opposite the corolla lobes, in all c. 0.2 mm high, at first adnate to the style base but eventually free, firmly attached to achene and forming a shallow cup-shaped appendage. *Achene* narrow-cylindrical, c. 4 mm long, 0.7 mm diameter, moderately glandular puberulous, dark red when mature; basal 0.7 mm sterile, glabrous, with four tumid gland-like ribs. *Pappus* at anthesis of 5 small erect fleshy scales c. 0.2 mm long alternate to corolla lobes; pappus scales in fruit greatly enlarged, woody, flat, oblong to narrow-obovate, c. 2 mm long, rounded at apex, sparsely glandular puberulous, dark red, eventually divaricate and slightly twisted, persistent.

Selection of collections examined (total 13) all herb. PERTH, WESTERN AUSTRALIA: 61 miles (98 km) S of Wiluna, *W.E. Blackall* 317; Leonora, *W.E. Blackall* 353; Glenorn Stn, Aug. 1938, *N.T. Burbidge*; 41 km S of Youanmi, *H. Demarz* 8264; 45 km W of Great Northern Highway along road to Fields Find, *P.S. Short* 2172.

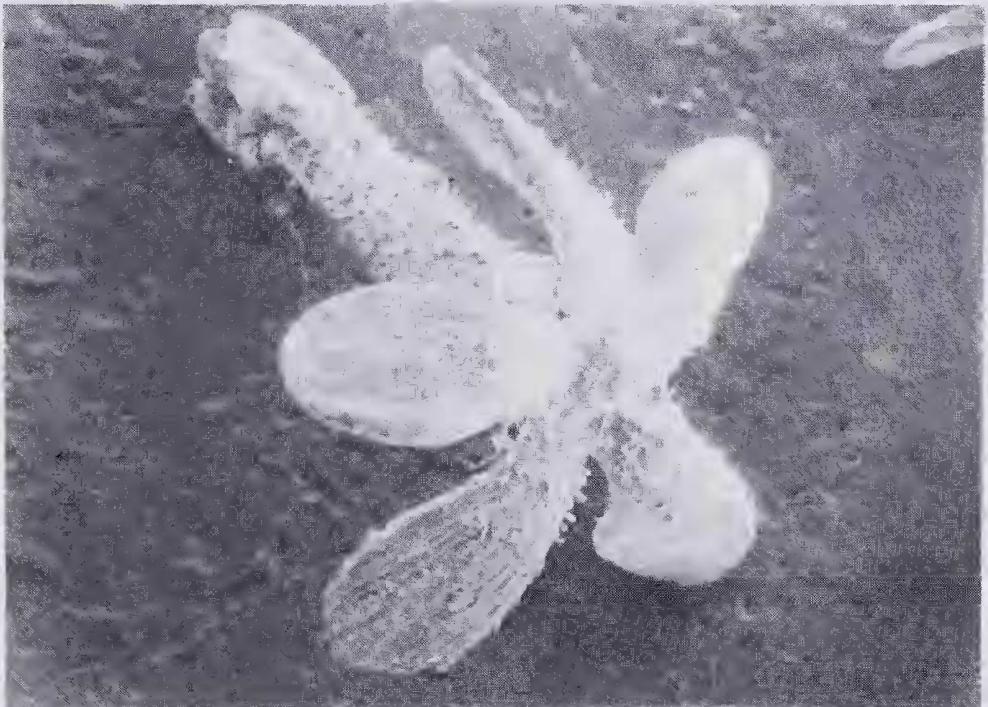


Figure 2. *Quinqueremulus linearis*. SEM photo of achene, $\times 25$ from *P.S. Short* 2172.

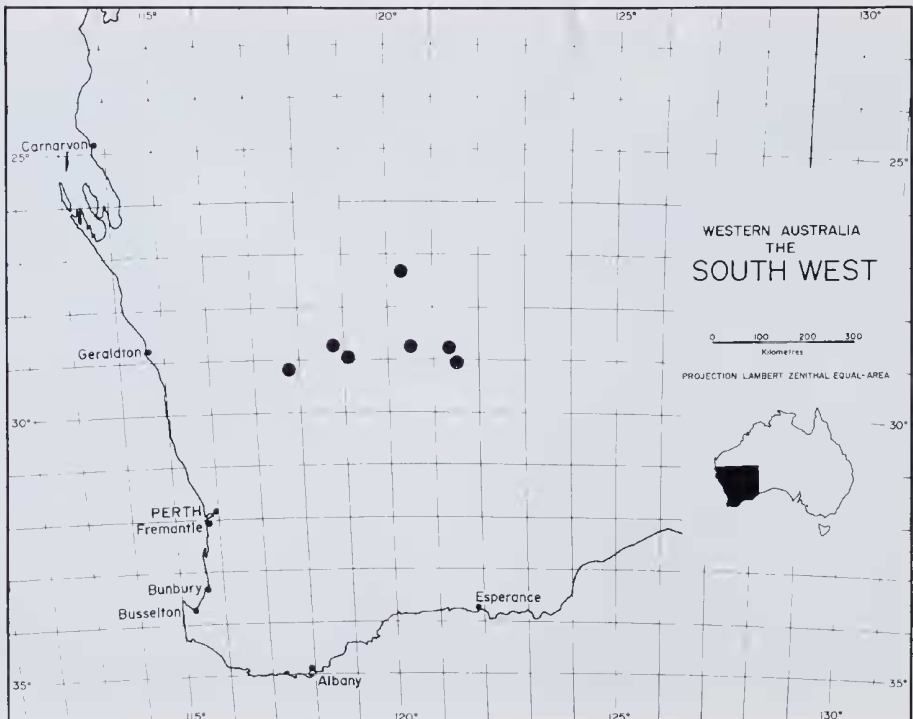
Distribution and habitat. Found in the Meekatharra to Leonora area of Western Australia, a region which falls within the Austin District of the Eremaean Botanical Province (Beard 1980). It is usually found growing in red sandy loam. (Map 1).

Flowering and fruiting period. This plant has been collected in flower from late July to late August and in fruit from late August to late September.

Etymology of name. The generic name is derived from the Latin *quinque* five, and *remulus*, a little oar, with reference to the five paddle-like pappus scales. The epithet *linearis* refers to the leaf shape.

As has been pointed out by Short (1983), the gnaphalioid genera with compound heads, sometimes referred to the subtribe Angianthinae (Bentham 1867), do not form a natural group since many of the constituent species are independently most closely related to different species within the heterogeneous genera *Helipterum* DC. (nom. illeg.) and *Helichrysum* Miller.

Quinqueremulus linearis, while obviously a member of the Angianthinae-Helichrysum group, has a type of pappus that is unique in the Australian Inuleae; it is also one by which this species may be readily recognised. The inflorescence structure is similar to that found in a group of species currently conceived as belonging to the genus *Myriocephalus* Benth. (1837) but which should probably be segregated as a distinct genus *Polycalymma* F. Muell. et Sonder (1853). These species are *Myriocephalus stuartii* (F. Muell. et Sonder) Benth. (*Polycalymma stuartii* F. Muell. et Sonder), *Myriocephalus morrisonianus* Diels (1905), and *Myriocephalus gueriniae* F. Muell. *Helipterum craspedioides* W. Fitzg. (1904) is conspecific with *Myriocephalus morrisonianus*. In addition to their inflorescence structure these species have in common with *Quinqueremulus* a general similarity in habit, foliage, indumentum and capitular bracts. They differ most obviously in having plano-convex achenes, a long dense silky achenial indumentum, and in having plumose pappus setae.



Map 1. Distribution of *Quinqueremulus linearis*.

Acknowledgements

The illustration of *Quinqueremulus* (Figure 1) was drawn by Margaret A. Menadue, to whom I wish to express my thanks.

I am grateful to Phillip Short for making critical comments on the manuscript and for providing the SEM photo of the achene (Figure 2).

References

- Beard, J.S. (1980). A new phytogeographic map of Western Australia. W. Austral. Herb. Res. Notes No. 3: 37-58.
- Bentham, G. (1867). Compositae "Flora Australiensis." Vol. 3, pp. 447-680.
- Merxmüller, H., Leins, P. & Roessler, H. (1977). Inuleae-systematic review. In Heywood, V.H., Harborne, J.B. & Turner, B.L. (eds), "The Biology and Chemistry of the Compositae". Vol. 1, pp. 577-602. (Academic Press: London)
- Short, P.S. (1983). A revision of *Angianthus* Wendl., sensu lato (Compositae: Inuleae; Gnaphaliinae), 1. Muelleria 5: 143-183.

